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# Silver coelacanths from Spain are not proofs of a pre-scientific discovery

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In 1964 and 1965, two silver fish pendants depicting coelacanths and thought to be religious votive from Spanish churches were purchased on the art market in Spain, dated between the 17th and late 19th century, long before the discovery for science of the living coelacanth in 1938. It was speculated that they originated either from the Mediterranean, subtropical Atlantic, or subtropical Pacific (de Sylva 1966, Bruton 1985, Anonymous 1993, Greenwell 1994, Raynold & Mangiacopra 1995). Some authors believe that the silver fish pendants represent a new species of coelacanthiforms (Raynold & Mangiacopra 1995), others claimed the pendants to be only a wishful fantasy of scientists and not coelacanths at all (Thomson 1991). However, new studies revealed that the silver fish artefacts are indeed coelacanths but were in fact produced more recently with the Comorian coelacanth, *Latimeria chalumnae*, as a model.

The 1964 artefact was purchased by the Argentinian chemist, Dr. L. Reti, but could not be traced further and must be considered lost. It was reported that Reti obtained the silver fish pendant from a priest near Bilbao on the Atlantic coast of Spain (de Sylva 1966, Bell 1967). The 1965 artefact is in the possession of Prof. M. Steinert, Brussels, who purchased it in an art gallery in Toledo, near Madrid (Anthony 1976).

The 1964 artefact, an articulated pendant about 10 cm long, matches the slender body shape of the original 1938 coelacanth holotype, in particular the shape of the head with the insertion of the pectoral fins behind the gill covers (Figures 1a,b). The head can be flipped downwards via a small hinge located ventrally. Unfortunately, Reti's photograph was cut so that the epicaudal lobe of the artefact cannot be seen. While the unpaired second dorsal and anal fins match perfectly the holotype, the position of the paired fins in relation to the first dorsal fin is inaccurate. This has probably mechanical reasons. The artefact stands on its anal and both paired fins. If the pectoral fins were positioned as in the real fish, they could not be used as a support. Furthermore, the taxidermists who prepared the holotype had bent the paired fins into an unnatural downward position to produce an 'Old Fourleg's' appearance (Figure 1b) that has not been observed in real animals (Fricke et al. 1987). The 1964 artefact reveals this unnatural fin position and depicts even some details of the damaged caudal fin of the holotype. All this evidence suggests that it is indeed a coelacanth and that it was produced using the holotype as a model.

The 1965 pendant is 35 cm long and has body parts articulated by a complicated system of joints. The positions of its paired and unpaired fins do not match the fin insertions of the real fish. The pectorals should be closer to the gill covers. Some patterns of engraving on the body of this fish pendant seem to represent the white spots found on the real fish. Due to tissue deterioration and fixation white spots were not described on the 1938 specimen (Smith 1939); they were first mentioned in publications and shown on photographs of the early fifties (e.g., Millot 1954). The pendant was,

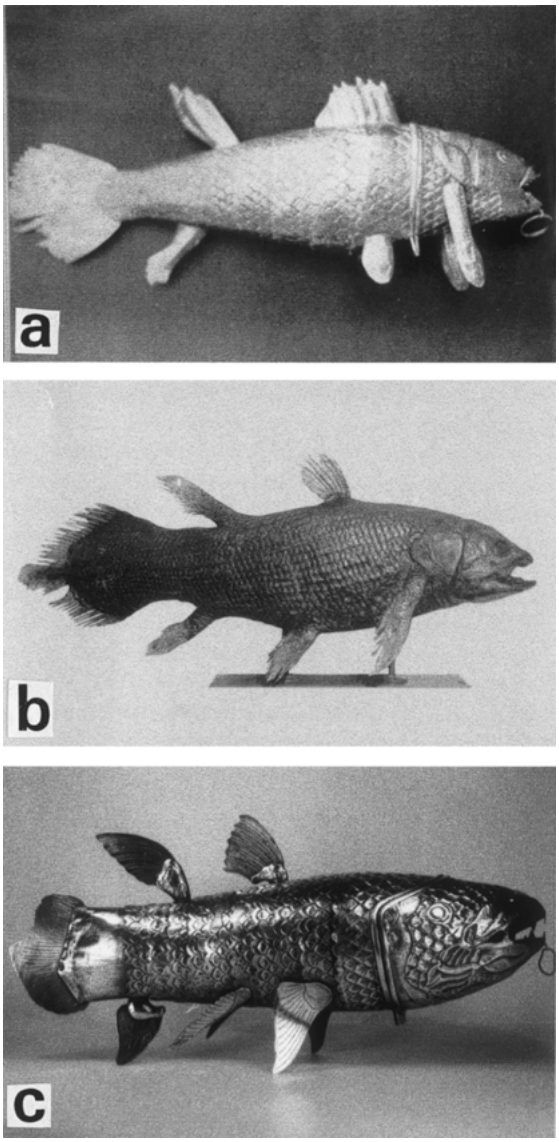


*Figure 1*. a – the 1964 coelacanth artefact of Bilbao, Spain (from de Sylva 1966); b – the holotype from 1938 displayed in the Natural History Museum in East London, South Africa; c – the 1965 coelacanth pendant of Toledo, Spain.

therefore, most likely created between 1954 and the date of purchase in 1965 (Fricke 1989).

In May 2000 the world authority on Spanish silver art, Prof. Cruz-Valdovinos (Departamento de Arte Contemporaneo, Universidad de Madrid) studied the 1965 pendant. He agreed on the provenance, the fine handmade artwork, and the old appearance of the fish pendant. He did not think, however, that this pendant was used as a votive (or ex-voto) because silver fish artefacts are generally not used as ex-votos in Spanish churches. This argument had also been put forward to us by Padre Valverde, director of the Museo Episcopal de Bilbao. Furthermore, the anatomical detail of the 1965 piece is – according to Cruz-Valdovinos – extremely unusual and not known from any other Spanish silver work. This artefact lacks style marks, such as peculiar fantasy engravings, typical for baroque silver art pieces of the 16th or 17th century. In Spanish folklore art fishes are rarely depicted naturalistically because this would decrease their appeal and reduce their value on the art market. The sharp edges of all fins, teeth, scales, and on the surface of pectoral and pelvic fins are similar to modern Spanish folklore art. Sharp edges suggest also a recent origin since otherwise the body surface and edges of old art pieces are unavoidably smoothed by handling.

In 1965 M. Steinert had taken photos from other silver fish displayed together with the silver coelacanth in the art gallery. Cruz-Valdovinos examined the photos and concluded that all silver fish artefacts originated from the same silversmith or an identical art school. It is very unlikely that such a collection would have remained undispersed over centuries. A further argument for modern origin of the 1965 piece is its low purchase price. Taking into account the price of silver and the effort to produce such a detailed pendant, the object seems substantially underpriced even for a modern art piece. A genuine antiquity would be far more expensive.

Cruz-Valdovinos believe that the silver coelacanth was very likely produced using photographs as models. This opinion is supported by the fact that the ventral head structure, which is not visible on the published photographs, is imprecise and lacks the gular bones that are obvious and diagnostic of coelacanths (Figure 2).

In May 2000, A. Jimenez, an expert of silver artefacts in Madrid and a specialist in the fabrication of silver fishes, inspected the 1965 artefact independently of Cruz-Valdovinos. He identified it as a typical Spanish folklore art piece and excluded its Meso-American origin. After a thorough study of the body surface, colour, mechanics of the hinge connecting the head and body, and details of the body carvings, he estimated the age of the artefact between 30 and 50 years, which agrees with the earlier estimated creation between 1954 and 1965. A. Jimenez also noted the great beauty and the unusually low price of the artefact. According to his opinion the 1965 artefact (and also very likely the 1964 silver coelacanth) was not used as a marine ex-voto

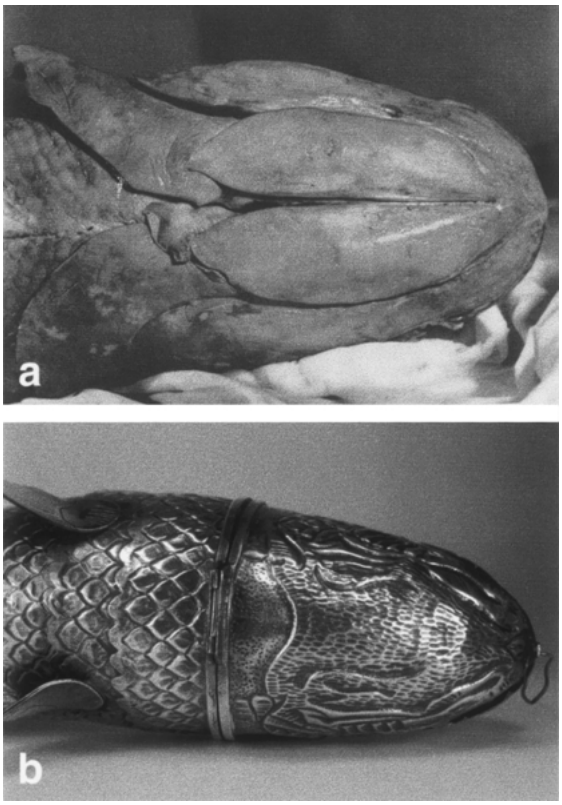


*Figure 2*. Ventral view of the head of a coelacanth: a – with conspicuous gular bones (from Millot 1954); b – fantasy engravings on the 1965 pendant instead of the gular bones.

in churches but merely as a decorative ornamental piece.

In the past all speculations about the antiquity of the silver coelacanths were based on photographs. Earlier in 1989, when examining photographs of the 1965 artefact, Cruz-Valdovinos suggested a 16th or 17th century date of origin for the art piece (Fricke 1997), but he warned at the same time that a firm conclusion cannot be drawn from a study of photographs; silver art experts have to handle the objects to be certain. This was not done until May 2000. The new evidence would suggest that the silver coelacanths from Spain neither are a proof of a pre scientific discovery of living coelacanths before 1938 nor do they hint at the existence of a new species or a new distribution outside the Comoros.

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